

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) An exhaust gas purification system equipped, from an upstream side toward downstream side through which an exhaust gas flows, with a plasma reactor and a catalyst unit charged with a catalyst acting on NO_x in said exhaust gas in this order, and equipped with a reducing agent supplying device to supply a reducing agent at an upstream side of said plasma reactor,

wherein said catalyst has an NO₂ adsorptive catalyst layer and an adjacent NO₂ selective reduction catalyst layer contacting the NO₂ adsorptive catalyst layer.

2. (Original) An exhaust gas purification system according to claim 1, wherein said NO₂ selective reduction catalyst layer is disposed on a surface of said catalyst, and said NO₂ adsorptive catalyst layer is disposed inside said NO₂ selective reduction catalyst layer.

3. (Original) An exhaust gas purification system according to claim 1, wherein said NO₂ adsorptive catalyst layer is a porous support to be made to support at least one kind of alkali metal, alkali earth metal, and rare earth metal; and said NO₂ selective reduction catalyst layer is a porous support to be made to support silver.

4. (Original) An exhaust gas purification system according to claim 2, wherein said NO₂ adsorptive catalyst layer is a porous support to be made to support at least one kind of alkali metal, alkali earth metal, and rare earth metal; and said NO₂ selective reduction catalyst layer is a porous support to be made to support silver.

5. (Original) An exhaust gas purification system according to claim 2, wherein said NO₂ adsorptive catalyst layer is stacked on an inner wall surface of narrow porosities of a support body with a plurality of the narrow porosities, and mass of said NO₂ adsorptive catalyst layer per unit volume of said narrow porosities is not less than 50 g/liter and not more than 100 g/liter; and wherein said NO₂ selective reduction catalyst layer is stacked on said NO₂ adsorptive catalyst layer, and mass of said NO₂ selective reduction catalyst layer per unit volume of said narrow porosities is not less than 100 g/liter and not more than 250 g/liter.

6. (Original) An exhaust gas purification system according to claim 3, wherein said NO₂ adsorptive catalyst layer is stacked on an inner wall surface of narrow porosities of a support body with a plurality of the narrow porosities, and mass of said NO₂ adsorptive catalyst layer per unit volume of said narrow porosities is not less than 50 g/liter and not more than 100 g/liter; and wherein said NO₂ selective reduction catalyst layer is stacked on said NO₂ adsorptive catalyst layer, and mass of said NO₂ selective reduction catalyst layer per unit

volume of said narrow porosities is not less than 100 g/liter and not more than 250 g/liter.

7. (Original) An exhaust gas purification system according to claim 3, wherein a silver support amount of said NO₂ selective reduction catalyst layer is not less than 1.5 mass percent and not more than 5 mass percent for the mass of the NO₂ selective reduction catalyst layer.

8. (Original) An exhaust gas purification system according to claim 4, wherein a silver support amount of said NO₂ selective reduction catalyst layer is not less than 1.5 mass percent and not more than 5 mass percent for the mass of the NO₂ selective reduction catalyst layer.

9. (Original) An exhaust gas purification system according to claim 5, wherein a silver support amount of said NO₂ selective reduction catalyst layer is not less than 1.5 mass percent and not more than 5 mass percent for the mass of the NO₂ selective reduction catalyst layer.

10. (Original) An exhaust gas purification system according to claim 6, wherein a silver support amount of said NO₂ selective reduction catalyst layer is not less than 1.5 mass percent and not more than 5 mass percent for the mass of the NO₂ selective reduction catalyst layer.

11. (Original) An exhaust gas purification system according to any one of claims 1 to 10, wherein a NO_x selective reduction catalyst unit charged with a NO_x selective reduction catalyst is disposed at a downstream side of said catalyst unit.

12. (Original) An exhaust gas purification system according to claim 11, wherein said NO_x selective reduction catalyst is a porous support to be made to support silver and a silver support amount of said NO_x selective reduction catalyst is not less than 1.5 mass percent and not more than 5 mass percent.